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Montana Basin Outlook Report January 1, 1993

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MONTANA Water Supply Outlook Report as of January 1, 1993

January snow measurements range from above average to slightly below average across the state. Late fall and early winter storms have gotten most of Montana's snowpack accumulations off to a good start. Early storms tracked east of the Continental Divide leaving the northwest part of the state below average with the remainder of the state near average. As the winter has progressed, storms have been tracking south along the Continental Divide bringing snowpack conditions near average to slightly above average in all basins except those in the Yaak River and the Upper Clark Fork and Yellowstone River Basins where snowpacks are slightly below average.

SNOWPACK

As of January 1, snowpack extremes indicate above average amounts in the upper Madison River Basin in southwestern Montana and below average for the Yaak River in the extreme northwestern corner in the Kootenai River Basin of Montana. Snowpacks are generally near to 20% below those of last year, except in the Bear Paw Mountains where they are double those of last year.

West of the Continental Divide, snowpacks are near average except in the Yaak River and Upper Clark Fork River Basins where snowpacks are below average.

East of the Continental Divide, snowpacks are near average except in the upper Missouri Mainstem and lower Madison, Gallatin and Upper Yellowstone Rivers where they are slightly below average. The upper Madison and Gallatin Rivers are above average.

RIVER BASIN	% OF AVERAGE	% OF LAST YEAR
KOOTENAI	91	100
FLATHEAD	102	96
UPPER CLARK FORK	90	76
BITTERROOT	100	84
LOWER CLARK FORK	96	84
JEFFERSON	100	84
MADISON	115	96
GALLATIN	100	89
MAINSTEM MISSOURI	94	85
SMITH-JUDITH-MUSSELSHELL	91	87
SUN-TETON-MARIAS	96	89
ST. MARY AND MILK	99	113
UPPER YELLOWSTONE	88	82
LOWER YELLOWSTONE	86	85

PRECIPITATION

Fall precipitation got off to a very slow start in the extreme northwest part of the state being below to well below average. The best fall moisture was in the northcentral and northeast where they received above average precipitation.

Mountain water year precipitation ranges from a high of 118% of average in the Madison River Basin to a low of 87% of average in the Kootenai and Lower Clark Fork Basins.

Valley precipitation for December was well below normal across much of the state. However, from Kalispell westward there was well above normal valley snowfall.

RIVER BASIN	DECEMBER % OF AVERAGE	WATER YEAR % OF AVERAGE
KOOTENAI	97	87
FLATHEAD	103	99
UPPER CLARK FORK	100	100
BITTERROOT	113	92
LOWER CLARK FORK	105	87
JEFFERSON	105	99
MADISON	159	118
GALLATIN	113	113
MAINSTEM MISSOURI	107	102
SMITH-JUDITH-MUSSELSHELL	94	108
SUN-TETON-MARIAS	132	101
ST. MARY AND MILK	105	100
UPPER YELLOWSTONE	117	98
LOWER YELLOWSTONE	98	99

RESERVOIRS

Reservoir storages are well below average in the Bitterroot River, Flathead River, Upper Clark Fork River and Jefferson River Basins and elsewhere are near to slightly above average.

RIVER BASIN	% OF CAPACITY	% OF AVERAGE
KOOTENAI	39	73
FLATHEAD	46	63
UPPER CLARK FORK	66	81
BITTERROOT	20	20
LOWER CLARK FORK	93	98
JEFFERSON	22	43
MADISON	70	104
GALLATIN	38	88
MAINSTEM MISSOURI	77	92
SMITH-JUDITH-MUSSELSHELL	63	120
SUN-TETON-MARIAS	50	110
ST. MARY AND MILK	27	61
UPPER YELLOWSTONE	52	99
LOWER YELLOWSTONE	66	102

STREAMFLOW

Fall and early winter streamflows have been well below average in the Kootenai River, Lower Clark Fork River, Bitterroot River, Upper Clark Fork River and Jefferson River Basins. The remainder of Montana's River Basins have been slightly below to slightly above average.

Assuming current conditions persist, seasonal volume streamflows are forecast to be slightly below to slightly above average across the state.

RIVER BASIN	FORECASTS % OF AVERAGE	FORECASTS % OF LAST YEAR
KOOTENAI	85	91
FLATHEAD	89	106
UPPER CLARK FORK	88	96
BITTERROOT	96	96
LOWER CLARK FORK	83	92
JEFFERSON	91	82
MADISON	107	99
GALLATIN	108	109
MAINSTEM MISSOURI	97	95
SMITH-JUDITH-MUSSELSHELL	99	107
SUN-TETON-MARIAS	91	90
ST. MARY AND MILK	91	101
UPPER YELLOWSTONE	94	90
LOWER YELLOWSTONE	92	89

SOIL MOISTURE

Based on fall precipitation and streamflows and soil moisture beneath the snowpack, soil moisture conditions in the Kootenai River, Lower Clark Fork River, Bitterroot River and Jefferson River Basins are well below average. All other basins are slightly below to near average.

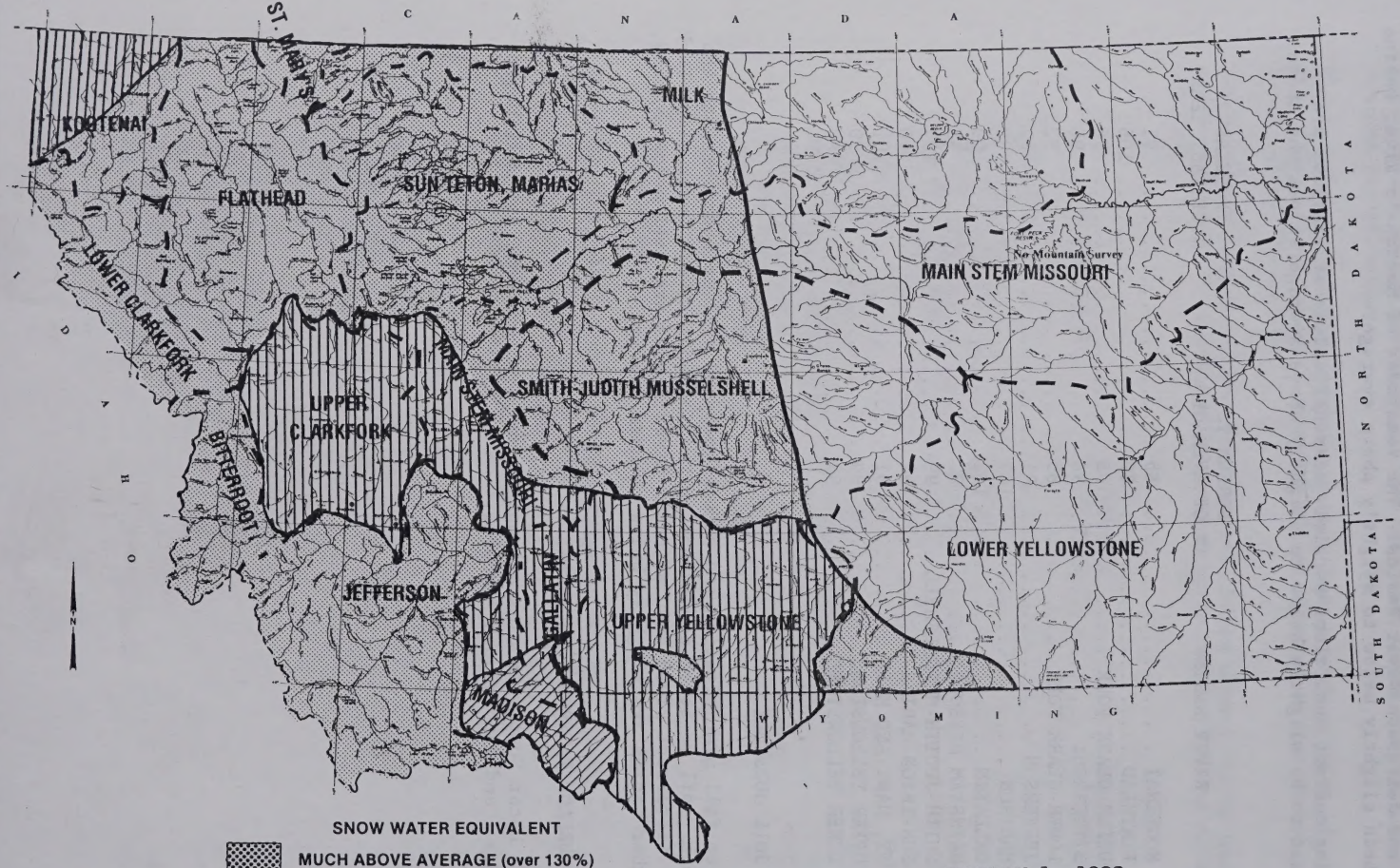
SURFACE WATER SUPPLY INDEX

Surface Water Supply Indexes are not computed this month, but will begin February 1 and run through August 1.

U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

MOUNTAIN SNOWWATER EQUIVALENT FOR MONTANA



SNOW WATER EQUIVALENT

- MUCH ABOVE AVERAGE (over 130%)
- ABOVE AVERAGE (110-130%)
- NEAR AVERAGE (90-110%)
- BELOW AVERAGE (70-90%)
- MUCH BELOW AVERAGE (below 70%)
- NO MOUNTAIN SURVEY

JANUARY 1, 1993

0 25 50 75 100 MI

0 50 100 150 KM

SOURCE:
Information provided by SCS Snow Survey Personnel.

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USDA SCS FORT WORTH, TEXAS 1989

KOOTENAI RIVER BASIN in Montana as of January 1, 1993

Snowpack conditions in the Kootenai River Basin are near average. Snow water content was 91% of average and 100% of last year. The Kootenai Mainstem, in Montana, water content was 95% of average, Tobacco Basin was 94% of average, Fisher Basin was 109% of average and the Yaak was 84% of average.

Mountain precipitation for December was 97% of average and 111% of last year. Water year precipitation, beginning October 1, 1992, was 87% of average and 104% of last year.

Lake Koocanusa storage on the last day of December was 73% of average and 90% of last year.

Streamflows are forecast to be slightly below average and slightly below those of last year. December streamflow for the Kootenai River below Libby Dam was near average, Fisher River near Libby was well below average and the Yaak River near Troy was well below average.

KOOTENAI RIVER BASIN in Montana
Streamflow Forecasts - January 1, 1993

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	50% (Most Prob) (% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
TOBACCO nr Eureka							
APR-JUL	82	104	119	89	134	156	133
APR-SEP	94	116	132	90	148	171	147
KOOTENAI bl Libby Dam (1,2)							
APR-JUL	3200	4500	5090	88	5680	6980	5779
APR-SEP	3760	5290	5980	88	6670	8200	6772
FISHER nr Libby							
APR-JUL	137	186	220	94	255	305	234
APR-SEP	154	205	240	96	275	325	250
YAAK nr Troy							
APR-JUL	280	355	405	84	455	530	483
APR-SEP	300	375	425	84	475	550	505
KOOTENAI at Leonia (1,2)							
APR-JUL	3970	5600	6340	88	7080	8710	7199
APR-SEP	4550	6420	7270	88	8120	9990	8275

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

KOOTENAI RIVER BASIN in Montana
Reservoir Storage (1000AF) End of December

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
LAKE KOOCANUSA	5748.0	2220.0	2469.0	3050.0

KOOTENAI RIVER BASIN in Montana
Watershed Snowpack Analysis - January 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
EAST KOOTENAI in B.C.	17	76	66
KOOTENAI MAINTSTEM in MT	8	103	95
TOBACCO	2	101	94
FISHER	1	109	109
YAAK	4	92	77
KOOTENAI in MT	10	98	88
KOOTENAI ab Bonners Ferry	27	85	75

FLATHEAD RIVER BASIN as of January 1, 1993

Snowpack conditions in the Flathead River Basin are near average. Snow water content was 102% of average and 96% of last year. North Fork Flathead Basin water content was 91% of average, Middle Fork Flathead Basin was 96% of average, South Fork Flathead Basin was 114% of average, Stillwater-Whitefish basins were 106% of average, Swan Basin was 109% of average, Mission Valley Basin was 103% of average, Little Bitterroot-Ashley Basins were 109% of average and Jocko Basin was 98% of average.

Mountain precipitation for December was 103% of average and 115% of last year. Water year precipitation, beginning October 1, 1992, was 99% of average and 102% of last year.

Reservoir storage on the last day of December was 63% of average and 78% of last year. Combined Camas reservoir storage was 86% of average and 57% of last year, combined Mission Valley reservoir storage was 74% of average and 95% of last year, Hungry Horse storage was 56% of average and 68% of last year and Flathead Lake storage was 78% of average and 100% of last year.

Streamflows are forecast to be slightly below average and slightly above those of last year. December streamflow at the North Fork Flathead near Columbia Falls was well below average, the Middle Fork Flathead near West Glacier was well below average and near last year and the South Fork Flathead near Columbia Falls was below average.

FLATHEAD RIVER BASIN
Streamflow Forecasts - January 1, 1993

Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
	Chance of Exceeding *						
NF FLATHEAD nr Columbia Falls							
APR-JUL	1110	1320	1460	88	1600	1810	1662
APR-SEP	1260	1470	1620	88	1770	1980	1836
MF FLATHEAD nr West Glacier							
APR-JUL	1050	1280	1440	88	1600	1830	1638
APR-SEP	1160	1410	1580	88	1750	2000	1788
SF FLATHEAD nr Columbia Fls (1,2)							
APR-JUL	1260	1690	1880	92	2070	2500	2051
APR-SEP	1360	1800	2000	92	2200	2640	2184
FLATHEAD at Columbia Falls (2)							
APR-JUL	3800	4450	4900	89	5350	6000	5482
APR-SEP	4220	4890	5340	90	5790	6460	5960
STILLWATER nr Whitefish							
APR-JUL	120	155	179	95	205	240	189
APR-SEP	137	174	199	95	225	260	209
WHITEFISH nr Kalispell							
APR-JUL	78	93	103	99	113	128	104
APR-SEP	89	105	116	100	127	143	116
SWAN nr Bigfork							
APR-JUL	460	530	575	99	625	690	583
APR-SEP	520	600	655	98	710	790	665
FLATHEAD nr Polson (1,2)							
APR-JUL	4060	5180	5690	89	6200	7320	6390
APR-SEP	4530	5670	6190	89	6710	7850	6926

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

FLATHEAD RIVER BASIN
Reservoir Storage (1000AF) End of December

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
CAMAS (4)	45.2	16.0	28.2	18.6
MISSION VALLEY (8)	100.0	25.0	26.3	33.8
HUNGRY HORSE	3451.0	1438.0	2110.0	2586.0
FLATHEAD LAKE	1791.0	1021.0	1022.0	1305.0

FLATHEAD RIVER BASIN
Watershed Snowpack Analysis - January 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
NORTH FORK FLATHEAD	7	98	87
MIDDLE FORK FLATHEAD	6	97	96
SOUTH FORK FLATHEAD	7	109	114
STILLWATER-WHITEFISH	2	104	106
SWAN	10	102	109
MISSION VALLEY	5	95	103
LITTLE BITTERROOT-ASHLEY	1	109	109
JOCKO	7	77	99
FLATHEAD	30	96	101

UPPER CLARK FORK RIVER BASIN as of January 1, 1993

Snowpack conditions in the Upper Clark Fork River Basin are average. Snow water content was 90% of average and 76% of last year. The water content in the Clark Fork Basin above Flint Creek was 83% of average and 72% of last year, Flint Creek Basin was 88% of average and 72% of last year, Rock Creek Basin was 85% of average and 67% of last year, Clark Fork Basin above Blackfoot was 85% of average and 73% of last year and Blackfoot Basin was 93% of average and 77% of last year.

Mountain precipitation for December was 100% of average and 98% of last year. Water year precipitation, beginning October 1, 1992, was 100% of average and 93% of last year.

Reservoir storage on the last day of December was 66% of average and 81% of last year. Georgetown Lake storage was 82% of average and 78% of last year and Lower Willow Creek storage was 64% of average and 8% of last year.

Streamflows are forecast to be slightly below average and slightly less than last year. December inflow at Moulton Reservoir was well below average, Flint Creek near Southern Cross was about well below average and well below last year, Rock Creek near Clinton was well below average, Blackfoot River near Bonner was below average and below last year, Clark Fork River above Milltown was well below average and the Clark Fork River above Missoula was well below average and slightly below last year.

UPPER CLARK FORK RIVER BASIN
Streamflow Forecasts - January 1, 1993

Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
	Chance of Exceeding *						
MOULTON RES inflow (million gal.)							
APR-JUN	71	132	173	82	215	275	212
APR-JUL	72	142	189	81	235	305	234
WARM SPRINGS CK at Anaconda (2)							
APR-JUL	20	29	34	89	40	48	38
APR-SEP	28	37	43	91	49	58	47
LITTLE BLACKFOOT nr Garrison							
APR-JUL	9.0	48	74	89	100	139	83
APR-SEP	12.0	53	81	91	109	150	89
FLINT CK nr Southern Cross (2)							
APR-JUL	4.6	8.5	11.2	79	13.9	17.8	14.2
APR-SEP	4.7	9.4	12.7	76	16.0	21	16.7
FLINT CK bl Boulder Ck							
APR-JUL	27	40	49	86	58	71	57
APR-SEP	34	50	61	84	72	88	73
LOWER WILLOW CK RES inflow							
APR-JUL	4.1	8.9	12.2	87	15.5	20	14.0
APR-SEP	4.7	9.6	13.0	88	16.4	21	14.8
MF ROCK CK nr Philipsburg							
APR-JUL	39	51	59	89	67	79	66
APR-SEP	44	57	66	89	75	88	74
ROCK CK nr Clinton							
APR-JUL	126	197	245	83	295	365	296
APR-SEP	150	230	280	84	335	410	333
NEVADA CK nr Finn							
APR-JUL	5.5	12.3	16.9	88	22	28	19.1
APR-SEP	6.6	13.7	18.6	89	24	31	21
CLEARWATER nr Clearwater							
APR-JUL	111	139	158	92	177	205	172
APR-SEP	118	147	167	92	187	215	181
BLACKFOOT nr Bonner							
APR-JUL	495	655	760	91	865	1030	835
APR-SEP	570	740	855	92	970	1140	926
CLARK FORK ab Milltown							
APR-JUL	245	435	565	87	695	885	652
APR-SEP	310	520	660	87	800	1010	755
CLARK FORK ab Missoula							
APR-JUL	790	1110	1320	89	1530	1850	1487
APR-SEP	945	1290	1520	90	1750	2100	1681

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

UPPER CLARK FORK RIVER BASIN
Reservoir Storage (1000AF) End of December

Reservoir	Usable Capacity	********* Usable Storage ********* This Year	Last Year	Average
GEORGETOWN LAKE	31.0	22.9	29.2	27.9
LOWER WILLOW CREEK	4.9	0.9	----	1.4
NEVADA CREEK	12.6	1.1	----	3.9

UPPER CLARK FORK RIVER BASIN
Watershed Snowpack Analysis - January 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
CLARK FORK ab FLINT CREEK	13	72	83
FLINT CREEK	7	72	83
ROCK CREEK	1	67	85
CLARK FORK ab BLACKFOOT	21	73	85
BLACKFOOT	16	77	93
UPPER CLARK FORK	34	76	90

BITTERROOT RIVER BASIN as of January 1, 1993

Snowpack conditions in the Bitterroot River Basin are average. Snow water content was 100% of average and 84% of last year. The West Fork Bitterroot Basin was 107% of average, East Side Bitterroot Basin was 87% of average and West Side Bitterroot Basin was 101% of average.

Mountain precipitation for December was 113% of average and 117% of last year. Water year precipitation, beginning October 1, 1992, was 92% of average and 78% of last year.

Reservoir storage on the last day of December was 14% of average and 46% of last year. Painted Rocks Lake storage was 19% of average and 450% of last year and Como storage was 4% of average and 6% of last year (Como Lake was drained to rework the dam).

Streamflows are forecast to be near average and slightly less than those of last year. December streamflow at the Bitterroot near Darby was well below average and the Bitterroot at Missoula was well below average.

BITTERROOT RIVER BASIN
Streamflow Forecasts - January 1, 1993

Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions Chance of Exceeding * 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
WF BITTERROOT nr Conner (2)							
APR-JUL	80	119	145	95	172	210	152
APR-SEP	85	127	155	93	183	225	166
BITTERROOT nr Darby							
APR-JUL	275	385	460	94	535	645	491
APR-SEP	325	440	515	95	590	705	540
ROCK CK nr Darby (2)							
APR-JUL	59	72	81	103	90	103	79
APR-SEP	63	76	85	102	94	107	83
SKALKAHO CK nr Hamilton							
APR-JUL	26	34	40	87	46	54	46
APR-SEP	31	41	47	89	53	63	53
BURNT FORK CK nr Stevensville (2)							
APR-JUL	15.0	21	26	90	31	37	29
APR-SEP	19.0	26	31	91	36	44	34
BITTERROOT at Missoula							
APR-JUL	825	1080	1260	97	1440	1700	1301
APR-SEP	890	1150	1320	93	1490	1750	1418

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

BITTERROOT RIVER BASIN
Reservoir Storage (1000AF) End of December

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
PAINTED ROCKS LAKE	31.7	2.7	0.6	13.9
COMO	34.9	0.4	6.2	9.0

BITTERROOT RIVER BASIN
Watershed Snowpack Analysis - January 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
WEST FORK BITTERROOT	3	84	107
EAST SIDE BITTERROOT	2	69	87
WEST SIDE BITTERROOT	6	88	102
BITTERROOT	11	84	101

LOWER CLARK FORK RIVER BASIN as of January 1, 1993

Snowpack conditions in the Lower Clark Fork River Basin are near average. Snow water content was 96% of average and 84% of last year.

Mountain precipitation December was 105% of average and 111% of last year. Water year precipitation, beginning October 1, 1992, was 87% of average and 88% of last year.

Noxon Rapids storage on the last day of December was 98% of average and 96% of last year.

Streamflows are forecast to be near average and below those of last year. December streamflow for the Clark Fork River below Missoula was around well below average and the Clark Fork River at St. Regis was well below average and below last year.

LOWER CLARK FORK RIVER BASIN
Streamflow Forecasts - January 1, 1993

Forecast Pt	<=== Drier === Future Conditions === Wetter ===>						
	Chance of Exceeding *						
Forecast Period	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
CLARK FORK ab Missoula							
APR-JUL	790	1110	1320	89	1530	1850	1487
APR-SEP	945	1290	1520	90	1750	2100	1681
CLARK FORK bl Missoula							
APR-JUL	1630	2190	2570	92	2950	3510	2788
APR-SEP	1860	2440	2830	91	3220	3800	3099
CLARK FORK at St. Regis (1)							
APR-JUL	1500	2770	3350	91	3930	5200	3686
APR-SEP	1670	3080	3720	91	4360	5770	4095
CLARK FORK nr Plains (1,2)							
APR-JUL	4830	7830	9200	88	10600	13600	10450
APR-SEP	5290	8600	10100	88	11600	14900	11470
THOMPSON RIVER nr Thompson Falls							
APR-JUL	86	140	176	82	210	265	214
APR-SEP	105	161	200	83	240	295	240
PROSPECT CREEK at Thompson Falls							
APR-JUL	57	86	106	86	126	155	123
APR-SEP	65	95	115	87	135	166	132
CLARK FK at Whitehorse Rpds (1,2)							
APR-JUL	5470	8860	10400	89	11900	15300	11730
APR-SEP	5970	9710	11400	88	13100	16800	12910

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

LOWER CLARK FORK RIVER BASIN
Reservoir Storage (1000AF) End of December

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
NOXON RAPIDS	335.0	311.2	322.3	317.1

LOWER CLARK FORK RIVER BASIN
Watershed Snowpack Analysis - January 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
UPPER CLARK FORK	34	76	90
BITTERROOT	11	84	101
LOWER CLARK FORK	13	84	97
CLARK FORK TOTAL	53	82	95
FLATHEAD	24	100	100
PEND OREILLE	75	89	97

JEFFERSON RIVER BASIN as of January 1, 1993

Snowpack conditions in the Jefferson River Basin are average. Snow water content was 100% of average and 84% of last year. The Beaverhead Basin was 107% of average, Ruby was 107% of average, Big Hole Basin was 89% of average and Boulder Basin was 89% of average.

Mountain precipitation for December was 105% of average and 128% of last year. Water year precipitation, beginning October 1, 1992, was 99% of average and 83% of last year.

Reservoir storage on the last day of December was 43% of average and 63% of last year. Lima storage was 0% of average and 0% of last year, Clark Canyon storage was 48% of average and 68% of last year and Ruby River storage was 75% of average and 75% of last year.

Streamflows are forecast to be near average and below those of last year. December streamflow on the Beaverhead River near Grant was well average and the Big Hole River near Melrose was well below average and below those of last December.

JEFFERSON RIVER BASIN
Streamflow Forecasts - January 1, 1993

Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
	Chance of Exceeding *						
RED ROCK RIVER near Monida (2)							
APR-JUL	47	68	82	85	96	117	97
APR-SEP	47	70	86	82	102	125	105
BEAVERHEAD RIVER near GRANT (2)							
APR-JUL	55	96	123	93	150	191	132
APR-SEP	67	114	145	94	176	225	155
BEAVERHEAD RIVER at Barretts (2)							
APR-JUL	82	130	162	94	195	240	172
APR-SEP	101	155	191	94	225	280	203
RUBY RIVER near Alder							
APR-JUL	53	70	82	99	94	112	83
APR-SEP	64	84	98	99	112	132	99
BIG HOLE RIVER near Melrose							
APR-JUL	290	435	530	83	630	770	641
APR-SEP	315	470	575	82	680	835	697
BOULDER RIVER near Boulder							
APR-JUL	30	58	77	91	96	124	85
APR-SEP	34	64	84	92	104	134	91
WILLOW CREEK near Harrison							
APR-JUL	3.4	10.0	14.5	82	19.0	26	17.7
APR-SEP	3.8	11.1	16.1	81	21	28	20
JEFFERSON RIVER near Three Forks (2)							
APR-JUL	470	730	905	98	1080	1340	920
APR-SEP	560	830	1010	101	1190	1460	1003

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

JEFFERSON RIVER BASIN
Reservoir Storage (1000AF) End of December

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
LIMA	84.0	0.0	10.9	32.4
CLARK CANYON	255.6	67.9	99.9	142.1
RUBY RIVER	38.8	15.2	20.3	20.2

JEFFERSON RIVER BASIN
Watershed Snowpack Analysis - January 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
BEAVERHEAD	13	91	107
RUBY	5	89	107
BIGHOLE	10	72	89
BOULDER	8	74	89
JEFFERSON	29	84	100

MADISON RIVER BASIN as of January 1, 1993

Snowpack conditions in the Madison River Basin are slightly above average. Snow water content was 115% of average and 96% of last year. Snow water content above Hebgen Dam was 120% of average and the Lower Madison Basin was 111% of average.

Mountain precipitation for December was 159% of average and 207% of last year. Water year precipitation, beginning October 1, 1992, was 118% of average and 99% of last year.
Reservoir storage on the last day of December was 104% of average and 105% of last year. Ennis Lake storage was 86% of average and 95% of last year and Hebgen Lake storage was 106% of average and 106% of last year.

Streamflows are forecast to be near average and nearly the same as those of last year. December streamflow at the Madison River near Grayling was below average and near last December and the Madison River near McAllister was below average and near last December.

MADISON RIVER BASIN
Streamflow Forecasts - January 1, 1993

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
MADISON RIVER near Grayling			(2)				
APR-JUL	365	410	440	116	470	515	380
APR-SEP	470	525	560	115	595	650	486
MADISON RIVER near McAllister			(2)				
APR-JUL	545	625	675	102	725	805	662
APR-SEP	710	795	850	102	905	990	831

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

MADISON RIVER BASIN
Reservoir Storage (1000AF) End of December

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
ENNIS LAKE	41.0	29.0	30.6	33.7
HEBGEN LAKE	377.5	262.3	247.7	246.8

MADISON RIVER BASIN
Watershed Snowpack Analysis - January 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
MADISON above HEBGEN	8	98	120
LOWER MADISON	8	94	111
MADISON	16	96	115

GALLATIN RIVER BASIN as of January 1, 1993

Snowpack conditions in the Gallatin River Basin are average. Snow water content was 100% of average and 89% of last year. Snow water content in the upper Gallatin River Basin was 109% of average and in the East Gallatin River Basin was 89% of average.

Mountain precipitation for December was 113% of average and 151% of last year. Water year precipitation, beginning October 1, 1992, was 113% of average and 112% of last year.

Middle Creek storage on the last day of December was 88% of average and 103% of last year.

Streamflows are forecast to be near average and near those of last year. December streamflow at the Gallatin River near Gateway was below average and near last year and the Gallatin River at Logan was Below average and near last year.

GALLATIN RIVER BASIN
Streamflow Forecasts - January 1, 1993

	<=== Drier ===	Future Conditions	=== Wetter ===>		
Forecast Pt	Chance of Exceeding *				
Forecast Period	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
GALLATIN RIVER near Gateway							
APR-JUL	390	445	485	110	525	580	441
APR-SEP	460	520	565	109	610	670	518
E & W FK HYALITE CREEK near Bozeman							
APR-JUL	17.0	21	23	100	25	29	23
APR-SEP	20	24	26	100	29	32	26
HYALITE CREEK near Bozeman (2)							
APR-JUL	27	33	37	103	41	48	36
APR-SEP	32	38	43	102	48	54	42
GALLATIN RIVER at Logan							
APR-JUL	365	465	535	107	605	705	498
APR-SEP	450	555	625	108	695	800	581

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

GALLATIN RIVER BASIN
Reservoir Storage (1000AF) End of December

Reservoir	Usable Capacity	********* Usable Storage ********* This Year	Last Year	Average
MIDDLE CREEK	8.0	3.0	2.9	3.4

GALLATIN RIVER BASIN
Watershed Snowpack Analysis - January 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
UPPER GALLATIN	7	96	109
EAST GALLATIN	6	82	89
GALLATIN	12	89	100

MAINSTEM MISSOURI RIVER BASIN as of January 1, 1993

Snowpack conditions in the Mainstem Missouri River Basin are near average. Snow water content was 94% of average and 85% of last year. Snow water content in the West Side Missouri Basin was 88% of average and 74% of last year.

Mountain precipitation for December was 107% of average and 109% of last year. Water year precipitation, beginning October 1, 1992, was 102% of average and 98% of last year.

Reservoir storage on the last day of December was 92% of average and 98% of last year. Canyon Ferry Lake storage was 91% of average and 98% of last year, Helena Valley storage was 106% of average and 110% of last year, Lake Helena storage was 105% of average and 100% of last year, Hauser & Helena storage was 102% of average and 100% of last year, Holter Lake storage was 104% of average and 98% of last year and Fort Peck Lake storage was 70% of average and 89% of last year.

Streamflows are forecast to be near average and are about the same as those of last year. December streamflow at the Missouri near Toston was below average and below last year, the Missouri River at Fort Benton was well below average and well below last year, the Missouri River at Virgelle was well below average and well below last year and the Missouri River below Fort Peck was well below average and well below last year.

MAINSTEM MISSOURI RIVER BASIN
Streamflow Forecasts - January 1, 1993

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
MISSOURI RIVER at Toston				(2)			
APR-JUL	1300	1760	2080	100	2400	2860	2075
APR-SEP	1600	2090	2420	100	2750	3240	2411
PRICKLY PEAR CREEK near Clancy							
APR-JUL	3.0	15.0	22	96	30	41	23
APR-SEP	5.0	18.0	26	96	34	47	27
SUN RIVER at Gibson Dam				(2)			
APR-JUL	265	375	450	94	525	635	478
APR-SEP	305	420	500	95	580	695	526
MISSOURI RIVER at Fort Benton				(2)			
APR-JUL	1810	2570	3090	100	3610	4370	3087
APR-SEP	2340	3150	3700	100	4250	5060	3711
MARIAS RIVER near Shelby				(2)			
APR-JUL	117	275	380	85	485	645	447
APR-SEP	133	290	400	82	510	665	487
MISSOURI RIVER at Virgelle				(2)			
APR-JUL	1760	2810	3520	98	4230	5280	3595
APR-SEP	2400	3430	4140	98	4850	5880	4207
MISSOURI RIVER near Landusky				(2)			
APR-JUL	2510	3330	3890	100	4450	5270	3897
APR-SEP	2800	3870	4600	100	5330	6400	4580
MISSOURI RIVER below Fort Peck				(2)			
APR-JUL	2180	3270	4010	100	4750	5840	4015
APR-SEP	2180	3570	4510	101	5450	6840	4467

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

MAINSTEM MISSOURI RIVER BASIN
Reservoir Storage (1000AF) End of December

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
CANYON FERRY LAKE	2043.0	1543.0	1575.0	1690.0
HELENA VALLEY	9.2	5.4	4.9	5.1
LAKE HELENA	10.4	10.9	10.9	10.4
HAUSER & HELENA	61.9	63.1	63.1	61.7
HOLTER LAKE	81.9	80.0	81.6	76.7
FORT PECK LAKE (MAF)	18.9	10.6	11.9	15.1

MAINSTEM MISSOURI RIVER BASIN
Watershed Snowpack Analysis - January 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
MISSOURI HEADWATERS	49	88	104
WEST SIDE MISSOURI	8	74	88
SMITH-BELT	5	97	100
MAINSTEM MISSOURI	13	85	94
SUN-TETON-MARIAS	7	89	96
JUDITH-MUSSELSHELL	8	85	85
MISSOURI above FORT PECK	68	88	101
MILK RIVER	9	125	108
MISSOURI in MONTANA	75	90	101
MISSOURI blw YELLOWSTONE	120	88	96

SMITH-JUDITH-MUSSELSHELL RIVER BASINS as of January 1, 1993

Snowpack conditions in the Smith-Judith-Musselshell River Basin are near average. Snow water content was 91% of average and 87% of last year. Snow water content in the Smith-Belt Basins was 100% of average and 97% of last year and the Judith-Musselshell Basins was 85% of average and 85% of last year.

Mountain precipitation for December was 94% of average and 121% of last year. Water year precipitation, beginning October 1, 1992, was 108% of average and 109% of last year.

Reservoir storage on the last day of December was 120% of average and 101% of last year. Smith River storage was 53% of average and 82% of last year, Bair storage was 105% of average and 83% of last year, Martinsdale storage was 64% of average and 79% of last year and Deadman's Basin was 120% of average and 107% of last year.
Streamflows are forecast to be near average are about the same as those of last year. December streamflow at the Smith River near Fort Logan was well below average and less than last December.

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Streamflow Forecasts - January 1, 1993

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
SMITH RIVER near Fort Logan							
APR-SEP	36	56	70	96	84	104	73
SHEEP CREEK nr White Sulphur Springs							
APR-JUL	12.7	15.7	17.7	98	19.7	23	18.1
APR-SEP	16.0	19.0	21	100	23	26	21
NF MUSSELSHELL near Delpine							
APR-JUL	1.7	3.4	4.6	96	5.8	7.5	4.8
APR-SEP	2.1	4.0	5.3	95	6.6	8.5	5.6
SF MUSSELSHELL abv Martinsdale							
APR-JUL	16.0	38	53	102	68	90	52
APR-SEP	19.0	42	57	102	72	95	56

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Reservoir Storage (1000AF) End of December

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
SMITH RIVER	10.6	3.1	3.8	5.9
NEWLAN CREEK		NO REPORT		
BAIR	7.0	3.9	4.7	3.7
MARTINSDALE	23.1	5.9	7.5	9.2
DEADMAN'S BASIN	72.2	58.2	54.6	40.3

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Watershed Snowpack Analysis - January 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
SMITH-BELT	5	97	100
JUDITH-MUSSELSHELL	8	85	85

SUN-TETON-MARIAS RIVER BASINS as of January 1, 1993

Snowpack conditions in the Sun-Teton-Marias River Basin are near average. Snow water content was 96% of average and 89% of last year. Snow water content in the Sun-Teton Basins was 92% of average and 81% of last year and in the Marias Basin was 98% of average and 93% of last year.

Mountain precipitation for December was 132% of average and 126% of last year. Water year precipitation, beginning October 1, 1992, was 101% of average and 99% of last year.

Reservoir storage on the last day of December was 110% of average and 93% of last year. Gibson storage was 68% of average and 69% of last year, Pishkun storage was 108% of average and 99% of last year, Willow Creek storage was 105% of average and 75% of last year, Lower Two Medicine Lake storage was 186% of average and 108% of last year, Four Horns Lake storage was 110% of average and 100% of last year, Swift storage was 81% of average and 84% of last year, Lake Frances storage was 53% of average and 44% of last year and Lake Elwell (Tiber) storage was 110% of average and 101% of last year.

Streamflows are forecast to be near average and slightly less than those of last year. December streamflow at the Sun River at Gibson Dam was well below average and well below last December and the Marias River near Shelby was below average and below last December.

SUN-TETON-MARIAS RIVER BASINS
Streamflow Forecasts - January 1, 1993

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
SUN RIVER at Gibson Dam			(2)				
APR-JUL	265	375	450	94	525	635	478
APR-SEP	305	420	500	95	580	695	526
TWO MEDICINE RIVER near Browning			(2)				
APR-JUL	106	165	205	95	245	305	215
APR-SEP	116	175	215	94	255	315	228
BADGER CREEK near Browning			(2)				
APR-JUL	47	75	93	89	111	139	104
APR-SEP	58	87	107	89	127	156	120
SWIFT RESERVOIR Inflow near Dupuyer							
APR-JUL	26	48	63	93	78	100	68
APR-SEP	37	60	75	94	91	113	80
DUPUYER CREEK near Valier							
APR-JUL	-2.8	8.2	15.7	101	23	34	15.5
APR-SEP	-2.1	9.6	17.5	101	25	37	17.4
CUT BANK CREEK at Cut Bank							
APR-JUL	37	63	81	93	99	125	87
APR-SEP	44	72	90	94	109	136	96
MARIAS RIVER near Shelby			(2)				
APR-JUL	117	275	380	85	485	645	447
APR-SEP	133	290	400	82	510	665	487

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

SUN-TETON-MARIAS RIVER BASINS
Reservoir Storage (1000AF) End of December

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
GIBSON	99.1	27.9	40.2	41.0
PISHKUN	32.0	19.4	19.6	17.9
WILLOW CREEK	32.2	21.9	29.3	20.8
LOWER TWO MEDICINE LAKE	11.9	12.1	11.2	6.5
FOUR HORNS LAKE	19.2	13.7	13.7	12.4
SWIFT	30.0	11.2	13.3	13.8
LAKE FRANCES	112.0	37.1	85.1	69.6
LAKE ELWELL (TIBER)	1347.0	704.8	700.1	590.6

SUN-TETON-MARIAS RIVER BASINS
Watershed Snowpack Analysis - January 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
SUN-TETON	3	81	92
MARIAS	4	93	98
SUN-TETON-MARIAS	7	89	96

ST. MARY and MILK RIVER BASINS as of January 1, 1993

Snowpack conditions in the St. Mary and Milk River Basins are near average. Snow water content was 99% of average and 113% of last year. Snow water content in the Saint Mary River Basin was 97% of average and 100% of last year. In the Milk River Basin, the Milk headwaters was 110% of average and 106% of last year, the Bear Paw Mountains were 104% of average and 205% of last year.

Mountain precipitation for December was 105% of average and 126% of last year. Water year precipitation, beginning October 1, 1992, was 100% of average and 103% of last year.

Reservoir storage on the last day of December was 61% of average and 52% of last year. Lake Sherburne storage was 117% of average and 104% of last year, Fresno storage was 53% of average and 44% of last year, Beaver Creek storage was 144% of average and 93% of last year, and Nelson storage was 61% of average and 33% of last year.

Streamflows are forecast to be near average and similar to those of last year. December streamflow at the Saint Mary River near Babb was well below average and below last December.

ST. MARY and MILK RIVER BASINS
Streamflow Forecasts - January 1, 1993

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
SWIFTCURRENT CREEK at Sherburne			(2)				
APR-JUL	73	86	95	89	104	117	107
APR-SEP	88	102	112	90	122	136	125
ST. MARY RIVER near Babb			(2)				
APR-JUL	295	325	350	89	375	405	395
APR-SEP	355	395	420	91	445	485	463
MILK RIVER at Eastern Crossing							
MAR-SEP	194	230	260	101	285	310	258
MILK RIVER at Eastern Crossing (2)							
MAR-SEP	62	77	92	105	128	158	88

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

ST. MARY and MILK RIVER BASINS
Reservoir Storage (1000AF) End of December

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
LAKE SHERBURNE	64.3	24.6	23.6	21.1
FRESNO	127.0	28.4	64.8	53.1
BEAVER CREEK	3.5	2.6	2.8	1.8
NELSON	66.8	13.8	41.4	38.0

ST. MARY and MILK RIVER BASINS
Watershed Snowpack Analysis - January 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
MILK HEADWATERS	3	106	110
BEAR PAW	6	205	104
MILK RIVER	9	125	108
ST. MARY	4	100	97
ST. MARY and MILK	10	113	99
BOW RIVER in ALBERTA	7	74	60
OLDMAN RIVER in ALBERTA	1	89	86

UPPER YELLOWSTONE RIVER BASIN as of January 1, 1993

Snowpack conditions in the Upper Yellowstone River Basin are slightly below average. Snow water content was 88% of average and 82% of last year. The Yellowstone River Basin above Livingston was 90% of average and 88% of last year, the Shields River Basin was 84% of average and 72% of last year, the Boulder-Stillwater River Basins were 100% of average and 90% of last year and the Clark's Fork-Rock Creek Basins were 87% of average and 77% of last year.

Mountain precipitation for December was 117% of average and 150% of last year. Water year precipitation, beginning October 1, 1992, was 98% of average and 91% of last year.

Reservoir storage on the last day of December was 99% of average and 108% of last year. Mystic Lake storage was 62% of average and 97% of last year and Cooney storage was 129% of average and 113% of last year.
Streamflows are forecast to be near average and slightly below those of last year. December streamflow at the Yellowstone River at Corwin was slightly below average and near last December, the Yellowstone River near Livingston was near average and near last December and the Boulder River at Big Timber was near average and slightly above last December, the Stillwater River near Absarokee was near average and slightly below last December and the Yellowstone River near Billings was near average and near last December.

UPPER YELLOWSTONE RIVER BASIN
Streamflow Forecasts - January 1, 1993

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
YELLOWSTONE RIVER at Corwin Springs							
APR-JUL	1200	1400	1530	95	1660	1860	1609
APR-SEP	1480	1720	1880	97	2040	2280	1937
YELLOWSTONE RIVER near Livingston							
APR-JUL	1370	1610	1770	95	1930	2170	1855
APR-SEP	1710	1990	2180	97	2370	2650	2241
SHIELDS RIVER near Livingston							
APR-JUL	81	118	143	88	168	205	162
APR-SEP	105	143	168	94	193	230	179
BOULDER RIVER at Big Timber							
APR-JUL	240	280	310	93	340	380	335
APR-SEP	260	305	335	92	365	410	364
WEST ROSEBUD CREEK near Roscoe (2)							
APR-JUL	43	52	57	93	63	71	61
APR-SEP	57	67	73	92	79	89	79
STILLWATER RIVER nr Absarokee (2)							
APR-JUL	285	385	450	90	515	615	498
APR-SEP	350	455	525	89	595	700	593
CLARKS FORK RIVER near Belfry							
APR-JUL	340	425	480	90	535	620	532
APR-SEP	380	470	535	91	600	690	590
RED LODGE CREEK blw Cooney Res (2)							
APR-JUL	11.0	29	41	87	53	71	47
APR-SEP	21	39	51	89	63	81	57
YELLOWSTONE RIVER at Billings (2)							
APR-JUL	2450	2990	3360	94	3730	4270	3577
APR-SEP	2950	3550	3960	94	4370	4970	4211

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

UPPER YELLOWSTONE RIVER BASIN
Reservoir Storage (1000AF) End of December

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
MYSTIC LAKE	21.0	7.2	7.4	11.6
COONEY	27.4	18.1	16.0	14.0

UPPER YELLOWSTONE RIVER BASIN
Watershed Snowpack Analysis - January 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
YELLOWSTONE ab LIVINGSTON	14	88	90
SHIELDS	6	72	84
BOULDER-STILLWATER	3	90	100
CLARK'S FORK-ROCK CREEK	10	77	87
YELLOWSTONE above BIGHORN	28	82	88

LOWER YELLOWSTONE RIVER BASIN as of January 1, 1993

Snowpack conditions in the Lower Yellowstone River Basin are slightly below average. Snow water content was 86% of average and 85% of last year. The Bighorn River Basin, in Wyoming, was 83% of average and 85% of last year, the Little Bighorn Basin was 99% of average and 97% of last year, the Tongue River Basin, in Wyoming, was 103% of average and 94% of last year and the Powder River Basin, in Wyoming, was 88% of average and 72% of last year.

Mountain precipitation for December was 98% of average and 132% of last year. Water year precipitation, beginning October 1, 1992, was 99% of average and 88% of last year.

Reservoir storage on the last day of December was 102% of average and 101% of last year. Bighorn Lake storage was 103% of average and 100% of last year and Tongue River storage was 71% of average and 114% of last year.

Streamflows are forecast to be near average and below those of last year. December streamflow at the Bighorn River near Saint Xavier was near average and slightly above last December, the Yellowstone River near Miles City was near average and slightly below last December and the Yellowstone River near Sidney was near average and slightly below last December.

LOWER YELLOWSTONE RIVER BASIN
Streamflow Forecasts - January 1, 1993

Forecast Pt / Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
YELLOWSTONE RIVER at Billings (2)							
APR-JUL	2450	2990	3360	94	3730	4270	3577
APR-SEP	2950	3550	3960	94	4370	4970	4211
LITTLE BIGHORN RIVER nr Hardin							
APR-JUL	33	94	135	96	176	235	140
APR-SEP	39	106	151	96	196	265	157
POWDER RIVER at Moorhead							
APR-JUL	19.0	118	185	88	250	350	211
POWDER RIVER near Locate							
APR-JUL	28	145	225	89	305	420	252

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

t The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

LOWER YELLOWSTONE RIVER BASIN
Reservoir Storage (1000AF) End of December

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
BIGHORN LAKE	1356.0	920.4	915.6	891.8
TONGUE RIVER	68.0	18.4	16.1	26.0

LOWER YELLOWSTONE RIVER BASIN
Watershed Snowpack Analysis - January 1, 1993

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
BIG HORN (Wyoming)	26	85	83
LITTLE BIGHORN	2	97	99
TONGUE RIVER (Wyoming)	5	94	103
POWDER RIVER (Wyoming)	6	72	88
YELLOWSTONE RIVER	54	84	88